

1. Simplify: $-\sqrt{64}$

Write each of the following in simple radical form. Assume that all variable expressions represent positive numbers.

2. $\sqrt{x^{26}}$

3. $\sqrt[3]{64x^7}$

4. $(81)^{\frac{1}{4}}$

5. $(-27)^{\frac{2}{3}}$

6. $x^{\frac{1}{3}} \cdot x^{\frac{5}{3}}$

Simplify each expression. Assume that all variables represent positive numbers.

7. $\sqrt{\frac{a^6b^3}{81}}$

8. $\sqrt{36x^6y^5}$

9. $\sqrt{45}$

10. $\sqrt[3]{56}$

Perform the indicated operations. Assume that all variables represent positive numbers.

11. $\sqrt{3}(\sqrt{7} - \sqrt{5})$

12. $(\sqrt{7} + \sqrt{2})^2$

13. $\sqrt{45} - \sqrt{20}$

Perform the indicated operations. Leave your final answer in $a+bi$ form.

14. $\sqrt{-11} \cdot \sqrt{-3}$

15. $(7 + 3i)(6 - 5i)$

16. $(-4 + 8i) + (3 - 2i)$

17. $(4 - 10i) - (9 + 7i)$

In Problems 18 – 20: Solve using the quadratic formula.

18. $9x^2 - 10x + 2 = 0$

19. $x^2 + 2x + 17 = 0$

20. $x^2 - 7x + 20 = 0$

Solutions – Practice Test 5

1. -8
2. x^{13}
3. $4x^2\sqrt[3]{x}$
4. 3
5. 9
6. x^2
7. $\frac{a^3b\sqrt{b}}{9}$
8. $6x^3y^2\sqrt{y}$
9. $3\sqrt{5}$
10. $2\sqrt[3]{7}$
11. $\sqrt{21} - \sqrt{15}$
12. $9 + 2\sqrt{14}$
13. $\sqrt{5}$
14. $-\sqrt{33}$
15. $57 - 17i$
16. $-1 + 6i$
17. $-5 - 17i$
18. $x = \frac{5+\sqrt{7}}{9}$ or $\frac{5-\sqrt{7}}{9}$
19. $x = -1 + 4i$ or $-1 - 4i$
20. $x = \frac{7}{2} + \frac{\sqrt{31}}{2}i$ or $\frac{7}{2} - \frac{\sqrt{31}}{2}i$